The Interaction of Case and Aspect in Russian and in Finnish: a Comparison

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Abstract: This article will look at the interaction of case and aspect in both Finnish and Russian. In particular it will focus on the interaction of perfective and imperfective aspect with both accusative and partitive (or genitive) case in both languages. It will take as a starting point the well-known fact that in both languages the occurrence of partitive/genitive case on the direct object of a perfective verb indicates that the object is an indefinite, or unbounded, quantity. It will then go on to consider the difference that exists between the two languages with regard to imperfective aspect, wherein the use of artitive case on a object in Finnish can be used to indicate imperfectivity, but in Russian only Accusative case can occur on the object of an (affirmative) Imperfective verb. It will be proposed that in the case of perfective predicates, the occurrence of partitive/genitive case on the object is to be accounted for in both languages by the fact that partitive case is licensed by the weak quantifiers, which head a phrase (QP) dominating VP. In the case of a bare partitive, the quantifier which heads this phrase is Heim's (1982) operator of existential closure, present to bind the bare partitive, which introduces a variable. The difference in behaviour with regard to imperfective aspect is due, it will be argued to the presence of an Aspect Phrase encoding perfective/Imperfective aspect in Russian, which binds a temporal variable present in imperfective predicates. This phrase is not present in Finnish, which has no verbal morphology to indicate perfective/imperfective aspect, and hence such a temporal variable can only be bound by the operator of existential closure, thus explaining the occurrence of partitive case on the objects of imperfective verbs in Finnish.

1.   Introduction

This article will consider the occurrence of accusative and partitive (genitive) objects with perfective and imperfective verb forms in both Finnish and Russian. It is well-known that the two languages behave similarly with regard to the case-marking of the objects of perfective sentences, in that a bare accusative indicates a bounded quantity while a bare partitive/genitive object indicates an unbounded quantity of some entity. Similarly, definite/strongly quantified objects occur in the accusative case in both languages, while if an object is weakly quantified the complement of the weak quantifier appears in the partitive/genitive case. This fact points to the conclusion that partitive case is licensed by the weak quantifiers, and section Two of this article will argue that this is in fact the case for both bare and quantificational uses of the partitive, and will consider the location and nature of the quantifier which licenses bare partitives. It will be argued that this is in fact Heim's (1982) operator of existential closure. The location of the other weak quantifiers will also be considered.

The behaviour of Finnish and Russian with respect to imperfective aspect is rather different. In Finnish, partitive case on an object can indicate imperfectivity, while in Russian it is usual for only accusative case to occur on the objects of imperfective verbs. In order to account for this, we will have to consider the licensing of accusative case, which, it will be argued, is licensed by an aspect phrase encoding telicity/atelicity. This will be considered in section Three. Finally, in section Four, we will consider how the difference between the two languages with regard to the case-marking of objects is to be accounted for, and it will be proposed that this is due to a further aspect phrase, encoding perfectivity/imperfectivity in Russian, which dominates the aspect phrase mentioned above, and which serves to bind a temporal variable in imperfective predicates. This

phrase, it will be argued, is absent from Finnish sentences, and in consequence the temporal variable must be bound by the operator of existential closure, which appears immediately dominating VP, and is thus the nearest case licenser, rendering objects in Finnish imperfective sentences partitive. Since it is not necessary for this quantifier to be present in Russian, the nearest case-licenser will be the phrase encoding telicity/atelicity, and hence in Russian Imperfectives, the object is accusative.

2.   Object case-marking in Finnish and Russian

It is well-known that in Finnish the accusative alternates with a case called partitive, which indicates indefiniteness on the object of a perfective predicate, while the occurrence of accusative case on such an object indicates definiteness. Basically, the occurrence of a bare accusative on an object which is a mass noun or plurality of count nouns corresponds to the English definite article, while the occurrence of a bare partitive corresponds to the English existential bare plural/bare mass noun/'some'[1]. This use of the partitive in Finnish corresponds to the 'partitive' use of the genitive on direct objects (chiefly mass nouns) in Russian, the occurrence of which again indicates indefiniteness. Again, the accusative on the direct object indicates definiteness[2].

(1) a. Hän   joi   teen   (Finnish)

He_{NOM} $drink_{PAST}$ tea_{ACC}

'He drank the tea'

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[1] More precisely 'sm', to use Postal's (1966) notation, i.e, 'some' used as a cardinality indicator, interchangeable with a bare plural/mass noun, as opposed to 'some' with specific subset interpretation, which is interchangeable with 'some of the…' and which patterns with the strong quantifiers. Partitives are never used with specific subset interpretation.

[2] Accusative case does in general occur on definite/strongly quantified expressions in both languages. There is, however, one exception to this, and that is that it is possible for Accusative case to occur on a singular count noun, even when this is indefinite, i.e, the expression would be translated with the English singular indefinite article. This fact poses some problems for the theory to be outlined in the rest of this paper, as Heim (1982) regards the indefinite article, like bare plurals, as introducing a variable, which when it is interpreted existentially, is bound by the operator of existential closure, a weak quantifier. If partitive case is indeed licensed by the weak quantifiers, it is surprising that singular indefinite count nouns are not partitive in the languages we are considering.

b. Hän   joi   teetä

He_{NOM} $drink_{PAST}$ tea_{PART}

'He drank (some) tea'

c. On   vypil   caj   (Russian)

He_{NOM} $drank_{PERF}$ tea_{ACC}

'He drank the tea'

d. On   vypil   caju

He_{NOM} $drank_{PERF}$ tea_{GEN}

'He drank (some) tea.'

The Russian verbs above are perfective. Finnish does not use verbal morphology to indicate the perfective/imperfective distinction (though this can often be inferred from context, and in the above examples the verbs should be understood as perfective), but it is possible for the accusative/ partitive alternation on a direct object to indicate perfectivity/imperfectivity, and indeed, this is the only way that this aspectual distinction can be indicated in this language.

(2) a. Hän   luki   kirjan   (Finnish)

He_{NOM} $read_{PAST}$ $book_{ACC}$

'He read the/a book'

b. Hän   luki   kirjaa

He_{NOM} $read_{PAST}$ $book_{PART}$

'He was reading the/a book'

It should be noted that the direct object in (2b) can be definite, and indeed there is nothing to stop partitive case with imperfective meaning from occurring on a definite expression in Finnish. Nonetheless, it is still possible to see a point of contact between the two occurrences of partitive case illustrated above. In both cases, the partitive on the direct object indicates that the predicate is *unbounded*, to use the expression of Kiparsky (1996), or *irresultative*, to use the term preferred by traditional Finnish grammarians (e.g Denison, 1957), both of which terms basically correspond to the more familiar *atelic*. If the direct object is an unspecified quantity of some entity, as in (1b) then the predicate is spatially unbounded. If the action denoted by the verb takes place over some unspecified period of time, as is always the case with Imperfective aspect, then the predicate is temporally unbounded, even if the object itself is bounded (and of course, it is possible for the predicate to be both spatially and temporally unbounded, as in the English 'he was drinking water'). A predicate which is unbounded either spatially or temporally is not usually one which has led to an end result (unlike the predicates in (1a) and (2a), both of which have led to a result – i.e they are *resultative*), hence the traditional characterisation of such predicates as irresultative.

The fact that the Finnish partitive occurs on the objects of unbounded predicates has led Kiparsky (1998) to characterise the conditions for its occurrence as follows: partitive case licenses unboundedness. There is, however, a problem here, which Kiparsky also notes. The Russian partitive genitive, on the object of a perfective verb, has the same function as the Finnish partitive of indicating that the predicate is unbounded – in this case, because the object itself is spatially unbounded. However, the Russian genitive does not occur on the objects of affirmative imperfective verbs (although it can occur in negative imperfective sentences). Indeed only the accusative is allowed as an object case with imperfective verbs, as in the following sentence (3a) which should be compared with its Finnish counterpart (3b):

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(3) a. On   pil   caj/*caju

    He$_{NOM}$ drank$_{IMPF}$ tea$_{ACC}$/*tea$_{GEN}$

    'He drank/was drinking tea'

  b) Hän   joi   teetä

    He$_{NOM}$ drink$_{PAST}$ tea$_{PART}$

    'He was drinking tea'

Furthermore, there seems to be a preference for the use of imperfective aspect in Russian with objects that correspond to English existential bare plurals/"some" (Dahl, 1985). However, these objects still occur in the accusative case.

(4)   On   pisal   pis'ma

    He$_{NOM}$ wrote$_{IMPF}$ letter$_{ACCpl}$

    'He wrote/was writing letters'

This is somewhat surprising if the function of the partitive (including partitive genitives), is to license unboundedness. An imperfective predicate is as unbounded in Russian as it is in Finnish. Why then, should partitive case not occur on its object? In order to find the solution to this problem, let us look at it in another way, considering that partitive case may be licensed by some other element in the sentence, rather than, of itself, licensing unboundedness . We will begin by considering an occurrence of partitive case that has not so far been considered, namely its occurrence with overt quantifiers.

2.1   Partitives with Overt Quantifiers

It has already been seen that bare partitives[3], when they occur on the objects of perfective verbs in both Finnish and Russian, translate the English existential bare plural/bare mass noun/'some'. Both the existential bare plural and 'some' are included by Milsark (1977) amongst his 'weak' quantifiers, which he defines as the quantifiers which can occur in the associates of existential constructions in English. Those which cannot, he calls 'strong' quantifiers. The following tables show the weak and strong quantifiers in English:

(5) The weak quantifiers	The strong quantifiers
existential bare plural	generic bare plural
some	all
many/much	each
few/a little	every
several	both
numerals	most
a(n)	the
$\exists$	this/that/these/those
	$\forall$

We find, in both Finnish and Russian, that when a weakly quantified phrase occurs as the object of a verb, partitive case occurs on the complement of the weak quantifier[4]. (The quantifier itself is not partitive, however. Traditional grammars take the view that such

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[3] In what follows, the term 'Partitive' will be used for both Finnish Partitives and Russian Partitive Genitives. Also, all Finnish verb-forms are to be understood as Perfective unless stated otherwise.
[4] With the exception of the numeral 'one'. It is not obvious why this should be so, but it seems to give rise to the same problem as that noted in connection with singular indefinite count nouns in footnote 2. I will not attempt to deal with it further in this article.

quantifiers, when they head object phrases, are in fact accusative, and are nominative when they occur heading subject phrases, with which we shall not be concerned. However an alternative point of view is that they may occur in a 'frozen' caseless form, which appears to have historically developed from the accusative. In many Slavic languages a form which is identical to the accusative occurs even when the phrase is in subject position (Franks, 1995). Toivainen (1993) also provides evidence that the Finnish quantifiers *paljon,* "much, a lot of" and *vähän*, "few, a little" are fossilised accusatives, having acquired this form in the 19th century. I will remain neutral on the question of whether the quantifiers themselves are cased or caseless, and in glosses, I will simply leave them as unmarked).

This use of the partitive can be called the Quantificational Partitive. On the other hand, if the quantifier is strong, both it and its complement appear in the accusative case.

The following examples illustrate the Quantificational Partitive:

(6) a.   Kirjoitin   kaksi   kirjettä   (Finnish)

   Write$_{PAST1SG}$ two   letter$_{PART}$

   'I wrote two letters'

  b.   Minulla   on   paljon ystäviä

   I$_{ADE}$^{5} be$_{3SG}$ much   friend$_{PARTpl}$

   'I have a lot of friends'

  c.   Ja   napisal   dva   pis'ma   (Russian)

   I$_{NOM}$ wrote$_{PERF}$ two   letter$_{GENsing}$

   'I wrote two letters'

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[5] The Finnish adessive case translates 'on' and 'at'.

    d.   U   menja   mnogo   druzej

        By   I$_{GEN}$ many   friend$_{GENpl}$

      'I have a lot of friends'

It is natural to assume that such objects are quantifier phrases, with a structure as follows (taking example (6c) as an illustration):

(7)

```
      QP
     /  \
    Q    NP
    |    △
   dva  pis'ma
```
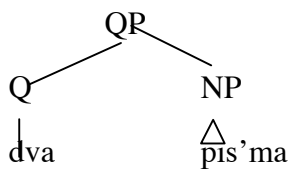
Given that the bare partitive translates 'some', it is tempting to generalise this structure to include bare partitives, and see them also as quantifier phrases, headed by a null weak quantifier (Franks & Dwizirek, 1993, Franks, 1995). This can be identified with the existential quantifier. Thus, taking the object in (1d) as an example, we would have:

(8)

```
        QP
       /  \
      Q    NP
      |    △
      ∃   caju
```
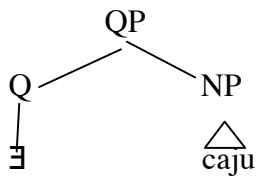
On this hypothesis Partitives, whether bare or with overt quantifiers, are generated as QP sisters of the verb, and Partitive case should be seen as licensed by the weak quantifiers (or, to use the terminology of Government & Binding theory, assigned under government by a weak quantifier).

There is, however, a problem with this, and that is the preference for the use of accusative case in Russian with imperfective verbs, even when the objects are indefinite. If bare plural/'some' indefinites are to be introduced into the derivation as QPs headed by a null quantifier, and this quantifier licenses partitive case, there is no reason why such indefinites should not be partitive, even with Russian imperfectives.

A possible solution to this, according to Franks & Dziwiek (1993), and Franks (1995), is that perfective aspect may be able to trigger a feature [+Q] (see also Neidle, 1988) on the verb, which allows its complement to be introduced as a QP, the null quantifier being licensed by this feature on the verb. Imperfective aspect, however, cannot do this, and hence the complements of imperfective verbs must be accusative. However, the feature [+Q] must in fact be [+Q (weak)], and license a weak quantifier, since as we have seen, only the weak quantifiers allow partitive complements. It is not obvious why perfective aspect, which is effectively the temporal equivalent of definiteness (Lyons, 1999), would trigger such a feature, which is quite incompatible with definiteness, nor why imperfective aspect would not. There is also the question of what the indefinite complement of an imperfective verb actually is, if it is not a QP. Now, there is variability in the interpretation of the bare accusative complement of an Imperfective, i.e it can be interpreted as definite or indefinite according to context. For example, sentence (4) *on pisal pis'ma* can be interpreted as 'he was writing letters' or as 'he was writing the letters'. It seems likely then that the bare accusative does in fact introduce a variable, and hence it is in fact an NP (this would also be compatible with the fact that the bare accusative singular on a count noun can be interpreted as either definite or indefinite).

So let us consider the possibility that bare partitive objects are also introduced as NPs, and not as QPs, and that the licensing of partitive case comes from something higher up in the derivation. What could this something be?

The hypothesis that partitive case is licensed by the weak quantifiers does seem likely to be correct, given the evidence of the quantificational partitive, and this hypothesis has been proposed by Thomas (2003). However, if partitives are not generated as quantifier phrases, but as NPs, this quantifier must be higher up in the derivation. A consideration of where it is, and why it is present, may help us to account for both the bare and quantificational partitive, and the different behaviour of Finnish and Russian direct objects with regard to imperfective aspect. The next section will consider where and what this quantifier is with respect to bare and quantificational partitives.

2.2   Heim's theory of indefinites

It will be recalled that the bare partitive corresponds to the English existential bare plural /'some', where 'some' is interchangeable with the bare plural. It has been proposed by Heim (1982) that the English bare plural does in fact have the function of introducing a variable into the logical representation of the sentence. This variable can be bound in several ways, for example by adverbs, which have the role of *unselective quantifiers*, that is, quantifiers which bind any variable within their scope (Lewis, 1975), as in the following English example:

(9)   Dogs are often/seldom/sometimes/always friendly

where the adverb gives the bare plural the interpretation 'many/few/some/all dogs', and of course the sentence can be interpreted as 'many dogs are friendly *on many occasions*', etc. However, we are concerned with bare plural objects, which usually have an existential interpretation in English[6], and which, as has been pointed out above, are what bare partitives correspond to. How are these to be dealt with?

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[6] Unless they are the objects of psych-verbs, which are usually interpreted generically.

Heim proposes that for most sentences, the logical representation has a tripartite structure, consisting of an operator, its restriction (the set the operator quantifies over), and what Heim calls the nuclear scope, that part of the logical representation which contains all variables not bound by the operator. Thus in a sentence like:

(10)   Every dog saw cats

'every' is the operator, the term 'dog' denotes its restriction, while the bare plural 'cats' remains in the nuclear scope.

These ideas have been taken further by Diesing (1992), whose Mapping Hypothesis proposes that:

(i)   material in the VP area of a syntactic representation is mapped into the nuclear scope.

(ii)   material in the IP area of a syntactic represenation is mapped into a restrictive clause.

Thus, the VP area of a syntactic representation is mapped into the nuclear scope. A corollary of this is that expressions which introduce variables will remain within VP.

To return to bare plurals, we can now see that the direct object 'cats' in (10) will remain within VP. How does it get its existential interpretation? According to Heim, this is via an operation called Existential Closure, whereby an existential quantifier (called the Operator of existential closure) is adjoined to the nuclear scope, binding any variables

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within it (thus the operator is an unselective quantifier), and closing off the nuclear scope. Syntactically, this operation is probably realised via the projection of a quantifier phrase above VP, headed by the operator of existential closure. The object, being a variable, will be an NP sister of V. Thus we have the following structure:

(11)

```
              QP
           /      \
        Q            VP
        |          /    \
        |        V        NP
        ∃
```
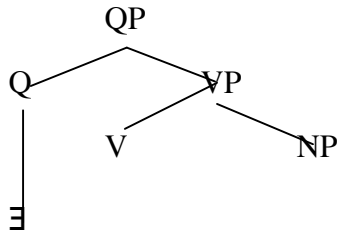
The nuclear scope then, is everything below QP, while the IP area is everything above it.

Let us now apply this to bare partitives. The bare partitive, corresponding to the existential bare plural[7], is introduced into the derivation as an NP sister of the verb. A QP, headed by the operator of existential closure, is then generated above VP to close off the nuclear scope. The partitive then takes its interpretation from the operator. Using the direct objects in (1b, d) as examples, we have:

(12)

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[7] It should be pointed out that it is not immediately obvious that the bare Partitive does introduce a variable. It corresponds only to the existential use of the English bare plural, not to the generic use. Nor is its meaning altered by adverbs. See Thomas (2003) for arguments that bare Partitives, and also bare Nominatives and Accusatives in Finnish, do in fact introduce variables.

```
           QP
          /  \
         Q    VP
         |   /  \
         |  V    NP
         |  |    /\
         ∃  joi  teeta
           vypil  caju
```
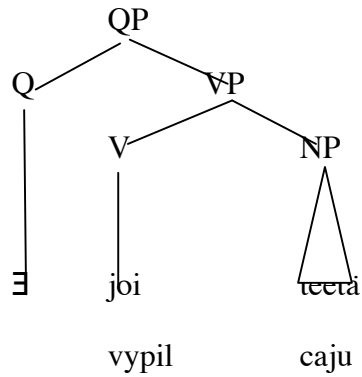
The partitive then checks its case against the quantifier, as the nearest available case-licenser. In accordance with Chomsky (2001), I will assume that movement is not necessary for case to be checked, but only occurs when something else is required, for instance when there is an EPP feature to be satisfied. Since there is no reason to suppose that quantifiers have an EPP feature, the partitive thus remains within VP, as is to be expected if it introduces a variable.

It is possible to take this further, and account for the occurrence of partitive case on the complements of the other weak quantifiers. It is possible to co-ordinate bare and quantificational partitives, which strongly indicates that they are the same type of phrase. Since it has been argued that bare partitives are NPs bound by a quantifier located above VP, it would be preferable if this is true for quantificational partitives also. In fact Sportiche (2003 & personal communication) has argued that the arguments of verbs are always selected as NPs, and that DPs/QPs are decompositional, formed via the determiner/quantifier being generated above the VP, heading a phrase of its own. Thus, for example, the underlying structure of

(13) The girls sleep

is not

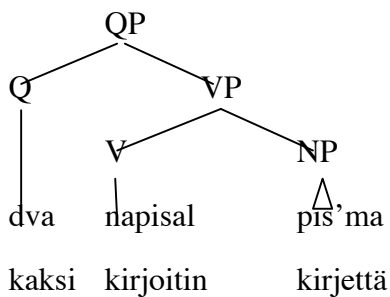(14)   [VP[DPthe girls] sleep]

but

(15)   [DPthe[VP[NPgirls] sleep]

The order of projections that Sportiche envisages is:

(16)   Det>Num>V

where Det includes the strong quantifiers and Num includes the weak quantifiers. Thus, a phrase headed by a weak quantifier is the phrase which immediately dominates VP. This would give us, for examples (6a, c), for instance, the following structure:

(17)

```
                QP
              /    \
           Q          VP
           |        /     \
           |       V        NP
           |       |        /\
          dva    napisal   pis'ma
          kaksi  kirjoitin  kirjettä
```

The partitive case on the object is again licensed by the weak quantifier. When the verb raises to tense and agreement, and the NP raises to Q[8], we then get the observed word orders *napisal dva pis'ma* and *kirjoitin kaksi kirjettä*.

Thus, the occurrence of both bare and quantificational partitives has been accounted for on the assumption that both are licensed by the weak quantifiers. We must now turn to

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[8] It is not clear how the raising of the NP to Q proceeds. It would not be satisfactory to have a full phrase adjoined to a head. There is some evidence that both floating quantifiers and quantificational adverbs are full quantifier phrases with empty complements (Abrusan, 2002), so it is possible that the overt quantifier is in fact generated as a full phrase in the specifier of a phrase headed by an existential quantifier, with an empty slot for the NP to fit into. However, this moves away from Sportiche's idea of such phrases being essentially decompositional and put together via movement rules.

the use of partitive case to express imperfective aspect in Finnish, and its non-occurrence with imperfective aspect in Russian. First, however, it will be necessary to consider how accusative case is licensed.

3.   The licensing of accusative case

Whatever licenses accusative case must be fairly low down in the derivation, though not below QP, which, when it is present, blocks off accusative case assignement. If QP is not present, then the projection should immediately dominate VP. Now, we have already noted the use of accusative case to indicate definiteness in Finnish and Russian, as in examples (1a, c), repeated below:

(18) a. Hän   joi   teen   (Finnish)

He$_{NOM}$ drink$_{PAST}$ tea$_{ACC}$

'He drank the tea'

 b. On   vypil   caj   (Russian)

He$_{NOM}$ drank$_{PERF}$ tea$_{ACC}$

'He drank the tea'

Confining our interest to perfective verbs for the time being, we note that the sentences above, as well as being perfective, are both telic, that is, they both describe achievements. Perfectivity/imperfectivity and telicity/atelicity are distinct, and it is important to consider the difference between them. Perfectivity and imperfectivity indicate the presence or absence of a temporal bound (Comrie, 1976). Perfective aspect indicates that an action is complete at a given point in time, while imperfective aspect indicates that an action is taking place, has taken place, or will take place, over some unspecified period of time,

without reference to its beginning or end point. Note that there is nothing about perfective aspect that requires that the object of a verb should have been completely affected by whatever action is denoted by the verb, as in the following example:

(19) On   vypil   caju

      He$_{NOM}$ drank$_{PERF}$ tea$_{GEN}$

      'He drank (some) tea'

Here, the totality of the entity referred to by the direct object is not affected by the action of drinking, unlike the direct object in (18a, b). It is only partially affected[9]. The predicate is perfective, but atelic – although the perfective aspect indicates that it came to an end at a point in time, still it denotes an activity, rather than an achievement.

Telicity requires both that the activity denoted by the verb is temporally bounded, and also that the direct object (in transitive sentences) has been totally affected by the activity. Thus, a telic predicate must be perfective, but perfectivity alone will not make a predicate telic. An imperfective predicate must, however, be atelic, as an activity which takes place over an unspecified period of time, and has not yet reached its endpoint, cannot be an achievement.

Telicity/atelicity, then, is a property of the predicate as a whole, and is dependent on both the temporal boundedness of the activity denoted by the verb, and the degree of affectedness of the direct object. An aspect phrase which encodes telicity/atelicity is therefore likely to found dominating that part of the sentence which corresponds to the predicate, viz., the VP, and, if QP is not present, immediately dominating it (Borer, 1994,

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[9] In traditional Finnish grammars, accusative and partitive objects are often called 'total' and 'partial' objects, to indicate that an accusative marked object is totally affected by the action denoted by the verb, while a partitive object is only partially affected.

also places such an aspect phrase immediately above VP, unless a QP headed by the operator of existential closure is present, in which case she also locates it between this aspect phrase and VP). We will call this phrase Asp_1P. Now let us see what it has to do with accusative case.

3.1 Accusative case and telicity/atelicity

As has already been mentioned, the degree of affectedness of the direct object is as important in making a predicate telic or atelic as is temporal boundedness. A direct object therefore has an aspectual role to play in the sentence, as well as its more traditional theta role, and indeed Tenny (1994) has proposed the existence of a number of aspectual roles, which subsume theta roles. We need only concern ourselves with two of these, viz., the roles of Measure and Path, defined as follows:

(i)   The MEASURE aspectual role is assigned to an argument of the verb which (in the event as described by the verb) either undergoes some internal change or motion along a single parameter, or provides a scale or parameter (without undergoing change or motion) that measures out and defines the temporal extent of the event.

(ii)   The PATH aspectual role is a defective measure role, which is assigned to an argument of the verb that provides a scale or parameter along which the event is measured out. The endpoint of the event need not have been reached.

It can easily be seen that only internal arguments of the verb can have these aspectual roles. Subjects are not affected in such a way as to provide a scale along which the event is measured out. It can of course be argued that in the events described by sentences (18a, b) and (19), the subject is indeed being affected, e.g by being filled, but this is not the

same as the affectedness of the direct object, the spatial extent of which is decreasing as the event progresses, and which is visibly measuring out the event with respect to time.

In sentences (18a,b), the direct object has the role of measure, while in (19) it has the role of path. This will also be the case in the Finnish translation of this sentence:

(20)   Hän   joi   teetä

        He$_{NOM}$ drink$_{PAST}$ tea$_{PART}$

        'He drank (some) tea'

and also in a Finnish Imperfective sentence such as:

(21)   Hän   luki   kirjaa

        He$_{NOM}$ read$_{PAST}$ book$_{PART}$

        'He was reading the/a book'

In both languages, we find that accusative case occurs on objects with the measure role, while partitive case occurs on objects with the path role. Now, any sentence in which the object has the measure role will be telic, while if the object has the path role, it will be atelic. It is therefore tempting to regard accusative case as checked against Asp$_1$ when this is [+TELIC], and partitive case as checked against the same head when it is [-TELIC] (Borer, 1994, also places an aspect phrase encoding telicity/atelicity above VP, and regards it as licensing accusative case when it is [+TELIC]). However, apart from the evidence linking partitive case to the weak quantifiers, it is also the case that accusative case can occur on objects with the path role, as in Russian:

(22)   On   pil   /aj

He$_{NOM}$ drank$_{IMPF}$ tea$_{ACC}$

'He was drinking tea'

Let us propose the following then. The path and measure roles are both direct object roles, and both play a role in establishing the predicate as telic or atelic. Accusative case, therefore, is the morphological realisation of both these aspectual roles, and is checked against Asp$_1$, regardless of whether this is marked [+TELIC] or [-TELIC]. If no other projection intervenes between Asp$_1$P and VP, then a direct object will be Accusative. If however, QP is present (and if it is, it must immediately dominate VP, in order to close off the nuclear scope), then an object is partitive.

With this in mind, we can now turn to the question of imperfective aspect in Finnish and Russian, and consider why the case-marking of objects should be so different in the two languages, with respect to this aspect.

4 The case-marking of objects in Imperfective sentences

4.1 Two Aspect Phrases can dominate VP

We have already considered the role of the direct object, and its degree of affectedness in making a predicate telic or atelic. But telicity/atelicity is also dependent on temporal boundedness. A predicate must be temporally bounded to be telic, and is atelic if it is not. Temporal boundedness, or lack of it, is what is expressed by perfective/imperfective aspect, and thus telicity/atelicity is also dependent on perfectivity/imperfectivity. Although perfectivity will not automatically make a predicate telic, if it is telic, it must also be perfective. Imperfectivity always makes a predicate atelic.

Since the two forms of aspect are distinct, although one is dependent on the other, it seems likely that we have two aspect phrases dominating VP, one encoding perfectivity/imperfectivity, and the other telicity/atelicity. As has already been mentioned, a predicate's property of being telic or atelic is dependent upon the direct object, while the property of being perfective or imperfective is not. An aspect phrase which encodes perfectivity/imperfectivity is therefore likely to dominate Asp_1P, rather than the other way round, as Asp_1P has already been suggested as the checker for accusative case, which has no inherent connection with perfectivity/imperfectivity, and consequently the phrase which encodes telicity/atelicity must be closest to VP. We will call a phrase which encodes perfective/imperfective aspect Asp_2P, and propose the following order of projections (in the absence of QP, and leaving out specifiers):

(23)
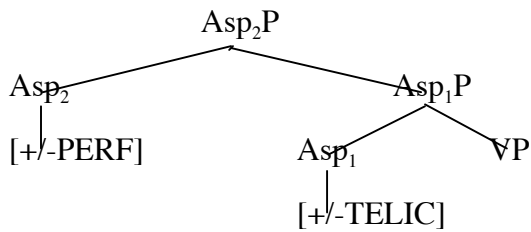
However, is it necessarily the case that Asp_2P is projected in every language? We have already seen that in Finnish, perfective/imperfective aspect is not marked by verbal morphology at all. It can be indicated by the use of accusative and partitive case on direct objects, but it should be noted that very often, out of context, it may not be possible to establish whether a Finnish sentence is perfective or imperfective merely from its case-marking. For example, consider the sentence below:

(24)	Poika	söi	omenia
	Boy$_{NOM}$	eat$_{PAST}$	apple$_{PARTpl}$

Out of context this could mean 'the boy ate (some) apples'(Perfective) or 'the boy was eating (the/some) apples' (imperfective). All that we can say about it is that it is atelic. We cannot make any further claims about its aspectual properties regarding perfectivity/imperfectivity without context.

This is very different from Russian, where all verbs are morphologically marked for either perfective or imperfective aspect. Let us assume then, that all properties which are morphologically indicated require checking, and that in the case of verbs this means raising to the appropriate head. For Russian verb-forms, this means Asp_2, which must be present in this language, for perfectivity/imperfectivity to be checked.

However, there is no verbal morpheme indicating perfectivity/imperfectivity in Finnish. There is no reason then to suppose that Asp_2P is projected in this language. The verb only needs to raise to Asp_1 to check its telicity/atelicity, and perfectivity/imperfectivity can be left to context.

With this in mind, let us now finally turn to the question of case-marking of objects in imperfective sentences.

4.2 The binding of a 'temporal variable' in imperfective sentences

 Imperfectivity indicates that an action is incomplete at some point in time. It may be ongoing, habitual, iterative, continuous, but in all cases, it will be of unspecified duration, without any beginning or end point implied. An imperfective predicate is in fact unbounded in the temporal domain, as an unspecified quantity of some entity is unbounded in the spatial domain.

Every event must take place at some spatio-temporal location, and it has been suggested that, in certain types of sentence at least[10], a covert spatio-temporal argument is present (Kratzer, 1995). However, it should also be remembered that, with few exceptions, most events have a duration, and take place over a *period* of time, too. This period of time may be bounded, in which case the predicate is perfective, or it may be unbounded, in which case the predicate is imperfective. In either case, it can legitimately be regarded as an argument of the verb, just as spatio-temporal location can, since it is necessarily present. However, in most cases, whether it is bounded or unbounded, it will not be an overt constituent of the sentence, but will remain covert, and thus be a variable.

It is proposed, then, that in all predicates other than those which describe events which can, from our perspective, be regarded as taking place instantaneously, there is a 'period of time' variable (periods of time are included by Lewis (1975) as amongst those variables which can be bound by adverbs), and this variable requires binding.

The obvious candidate for binding a temporal variable of the kind proposed above is the node which encodes perfective/imperfective aspect, which I have called Asp_2. In Russian, this node and its projection are present above Asp_1P. In Finnish, however, it is not. So with this in mind, now let us consider what happens in both these languages when the sentence is imperfective, and how the objects acquire their cases. We will consider the two sentences (3a, b), repeated below:

(25) a. On   pil   caj   (Russian)

   He_{NOM} $drank_{IMPF}$ tea_{ACC}

   'He was drinking (the) tea'

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[10] Those which contain *stage-level* predicates, i.e predicates which express a fairly temporary state of affairs, as opposed to *individual-level* predicates, which express more or less permanent states of affairs.

b. Hän   joi   teetä   (Finnish)

He$_{NOM}$ drink$_{PAST}$ tea$_{PART}$

'He was drinking (the) tea'

In both cases the direct object will be merged in the derivation as an NP, in accordance with Sportiche (2003). The covert temporal variable will be present, and must be interpreted as an unspecified period of time. In the Russian sentence, Asp$_2$ will be marked [-PERF] and be able to bind this variable, giving it its unbounded interpretation. No other projection need intervene between Asp$_1$P and VP, and therefore the nearest probe for the direct object will be Asp$_1$, which checks accusative case. The direct object is therefore accusative, even when it is to be interpreted as indefinite. In fact, if we assume that Asp$_1$ is an unselective binder, we have an explanation for why there is a preference for indefinites to occur with imperfective verb forms in Russian, as this binder could also give the direct object its unbounded (i.e indefinite) interpretation. If Asp$_2$ is [+PERF] then of course the temporal variable is interpreted as bounded. This leaves us with the question of how partitive case can occur on the objects of perfective predicates if Asp$_2$ can act as a binder for variables. The obvious answer is that perfectivity carries with it the implication of a bound, and an indefinite, unbounded object, which is entirely possible with perfective aspect, cannot be interpreted in this way[11]. For this reason, as has already been argued above, a phrase headed by the operator of existential closure must be projected between Asp$_2$P and VP, to give the object the required interpretation.

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[11] There does appear to be one circumstance in which the objects of perfective predicates are interpreted as bounded, and that is the 'large quantity' interpretation of Russian partitive genitives, when they occur on count nouns, for example

(i)   na-brali   grybov
     picked$_{PERF3PL}$ mushroom$_{GENpl}$
     '(they) picked a lot of mushrooms'

Kiparsky (1996) interprets this as indicating that perfective aspect also forces a direct object to be interpreted as bound. Thus the partitive genitive is interpreted as meaning 'a lot of' rather than 'some', as this makes the direct object bounded, according to Kiparsky. It seems likely that such 'large quantity' partitive genitives are licensed in the same way as other partitives, i.e via a quantifier above VP. It may be that the presence of perfective aspect forces this quantifier to be interpreted as 'a lot of' (and note, it is still a weak quantifier) rather than 'some'. However, it is not clear why this should not also be the case with mass nouns. There are also other complications, such as a tendency to focus the 'large quantity' objects, which are beyond the scope of the present article.

To turn to the Finnish sentence, here Asp_2P is not present, and therefore cannot bind the temporal variable. Yet this variable must be bound. How is this to be done? The variable must have an indefinite interpretation, and this can be provided by an existential quantifier. Indeed, the only candidate for binding the temporal variable is the operator of existential closure itself, which must therefore make its appearance between Asp_1P and VP, to close off the nuclear scope, just as it does when there is a variable which ranges over entities present. This quantifier then, is the nearest licenser for the direct object, which thus checks partitive case against it, just as an object which indicates an unspecified quantity does.

We can now see why the case-marking of objects in imperfective sentences is so different in Finnish and Russian – it is due to the presence of an aspectual projection in Russian which is not present in Finnish, which the verbal aspectual morphology is checked against. This leads to the prediction that in languages which have the same aspectual system as Russian and the other Slavic languages, and also use a difference in object case marking to indicate definiteness/indefinitenss, we will also find that only the accusative case occurs on the objects of imperfective sentences. In languages of the Finnish type, however, without aspectual morphology on the verb, we should expect to find partitive case (or its equivalent) used to indicate imperfectivity.

At the time of writing I know of no other languages which express aspect in the same way as Finnish, apart from the other Baltic Finnic languages. Since the aspectual system in these languages is believed to go back to the proto-language (Itkonen, 1979), we cannot infer anything from this, as it is simply a feature which all these languages have inherited from their common ancestor. It has however been claimed by Abraham (1997) that the same phenomenon existed in Old High German, as exists in Russian. This

language showed similarities to both Russian and Finnish, as it used a difference in case marking to indicate definiteness/indefiniteness, and also indicated perfectivity/imperfectivity via verbal morphology. However, this was not as fully grammaticalised as in Russian, and we also find in this languages verbs which can be interpreted as perfective or imperfective depending on context, as in Finnish. Here also, Abraham claims, we find that with a perfective predicate or perfective reading of an aspectually open verb, accusative case indicates definiteness while a partitive genitive is used to indicate indefiniteness. With imperfective predicates, however, only the accusative is allowed as a direct object case, and this is also the case with imperfective readings of aspectually open verbs. This seems to indicate that in a language which expresses the perfective/imperfective distinction morphologically, even if it is not morphologically indicated on all verbs, the same interaction of case and aspect as exists in Russian will occur. However, clearly more research on languages with similar case and aspectual systems would be needed before this could be claimed conclusively.

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